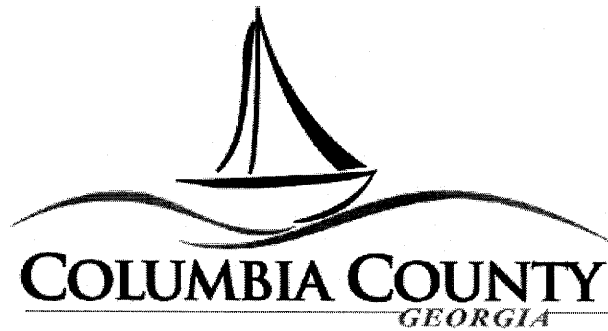


COLUMBIA COUNTY

ROAD HUMPS PROGRAM POLICY MANUAL



**Columbia County
Engineering and Environmental Services Division**

September 2005

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1.0 ROAD HUMPS PROGRAM INTRODUCTION AND GENERAL STANDARDS

An introduction to the Columbia County Board of Commissioners Road Hump Program is provided in the following sections. This introduction is intended to help the reader understand why Columbia County initiated the road hump program and to point out their intended application and eligibility requirements.

Citizen participation in the road hump program is required. Part of the road hump program process includes gathering signatures on petition forms for documenting perceived speed and volume concerns and for requesting the installation of road humps. The program may also involve citizen participation in a road hump installation cost-share arrangement.

1.1 Purpose of the Columbia County Road Hump Program

The purpose of the Columbia County Road Hump Program is to provide citizens with a tool for addressing a documented speed and volume problem on a local residential street. The local residential street must provide direct access to residential lots that are located in an established residential subdivision.

Consideration of a road hump program began as a potential solution to addressing excessive vehicles speeds on local residential subdivision streets. A study of several local jurisdictions was conducted to identify program strategies with the greatest potential for reducing speeds on local residential streets.

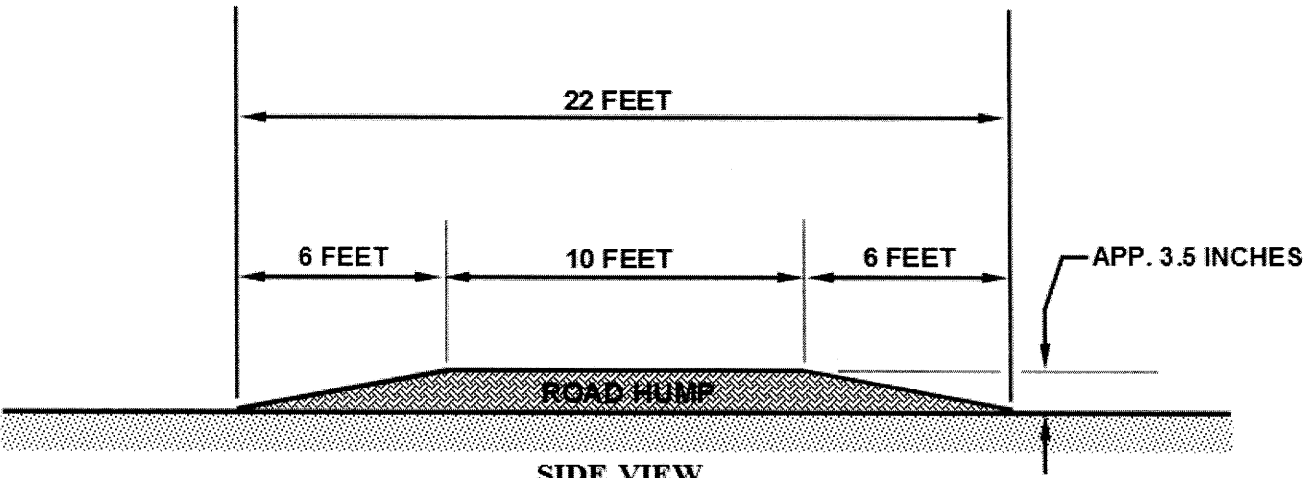
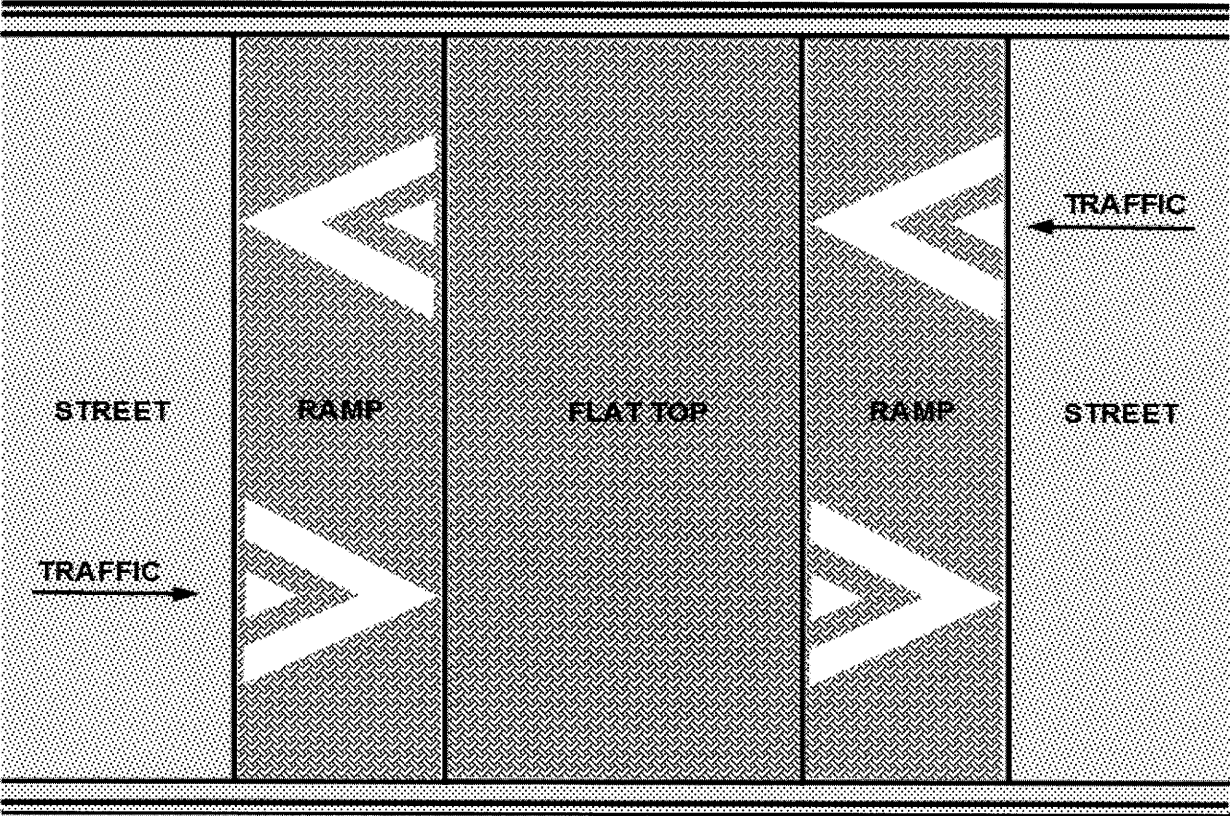
A raised section of roadway, or road hump, which is repeated at regular intervals along an entire street, was identified as the preferred strategy for offering the greatest speed reduction potential. Road humps resulted in measurable speed reductions along a street due to driver recognition of the increased physical impact the device would have on their vehicle if they attempted to travel over the device at higher speeds. The impact of road humps on drivers traveling at lower speeds is less and their regular spacing intervals prevent drivers from accelerating significantly between the humps.

Columbia County is interested in the opportunity to reduce speeds along an entire local residential subdivision street, as opposed to the opportunity to reduce speeds only at spot locations (i.e., intersections). Since speeding problems tend to exist at more than one location, lowering speeds along an entire street is considered to be more beneficial to the community. Columbia County believes this more community-driven approach to addressing speed and volume problems along an entire street is most effectively achieved through the use of road humps.

As a result, this Road Hump Program Policy Manual was developed on the premise that the appropriate application of road humps would serve as an effective tool for reducing vehicle speeds and potential cut-through traffic on local residential subdivision streets. This manual has been established for the citizens of Columbia County who are interested in pursuing the installation of road humps in their established residential subdivision. A sample road hump layout is provided in **Figure 1.1** on the following page.

FIGURE 1.1 - SAMPLE ROAD HUMP LAYOUT

TOP VIEW



SIDE VIEW

1.2 Street Classification and Posted Speed Limit

Columbia County will only consider the installation of road humps on paved local residential streets that provide direct access to residential lots of similar size and which are located in an established residential subdivision. The residential zoning district for the established residential subdivision shall indicate that the residential lots will not be subject to further subdividing and the existing residential driveway locations are not subject to change. All residential lots that directly abut the local residential street must be presently or recently occupied.

Application of road humps is not intended for streets that provide access to larger tracts of land that differ significantly in size and which have the potential to be further subdivided at some future date. In addition, the application of road humps is not intended for areas that provide direct access to multi-family dwelling units since the area does not follow typical Columbia County residential lot subdivision design standards for local residential streets.

The local residential street must be part of a local street network where the speed limit is 25 mph. Speed limit signs are typically installed near the beginning of a local residential street network where the road classification changes from a collector or arterial to a local residential street. Therefore, an interior local residential street that is part of an established 25 mph street network, but which does not contain a posted speed limit, may also be considered for road humps.

1.3 Local Residential Street Initial Screening Criteria

Before Columbia County will perform an initial screening of the requested street, the interested citizen must read and become familiar with the Columbia County Road Hump Program Policy Manual. However, if it is readily apparent to staff at the time the citizen expresses interest in the program that the requested street will not satisfy the initial screening criteria, staff will remove the street from any further consideration.

If, after reviewing the road hump manual, the citizen remains interested in pursuing road humps, Columbia County will perform an initial screening of the requested street in order to confirm that the street characteristics support further consideration of road humps. Road humps will only be considered for a local residential subdivision street that satisfies all of the following criteria:

- The street must be classified as a local residential street.
- The street must be located in an established residential subdivision that contains similarly sized subdivided residential lots.
- The street being requested must be the entire length of the street where the street name remains unchanged. In other words, a single street where the name remains unchanged and which is intersected by multiple streets will not be broken out into segments between the intersecting streets and considered separately for road humps.
- The street must contain residential units that are presently occupied or that have been recently occupied.
- The street must be located in a residential zoning district where residential lots are not subject to further subdividing.
- The street must contain residential driveway locations that are not subject to change.

- The street width must be less than or equal to 40 feet.
- The street length must be 800 feet or greater.
- The street must not contain several changes in vertical alignment that exceed 8 percent and which occur at a frequency and duration that would prevent the proper placement of road humps (road humps will not be installed on grades exceeding 8 percent).
- The street must contain residential lot driveways with adequate separation between them to allow for the installation of two or more properly spaced road humps that are neither in nor too close to the edges of adjacent driveways.
- The street must follow typical Columbia County residential lot subdivision design standards for local residential subdivision streets.
- The local residential street must be part of a street network where the speed limit is 25 mph.

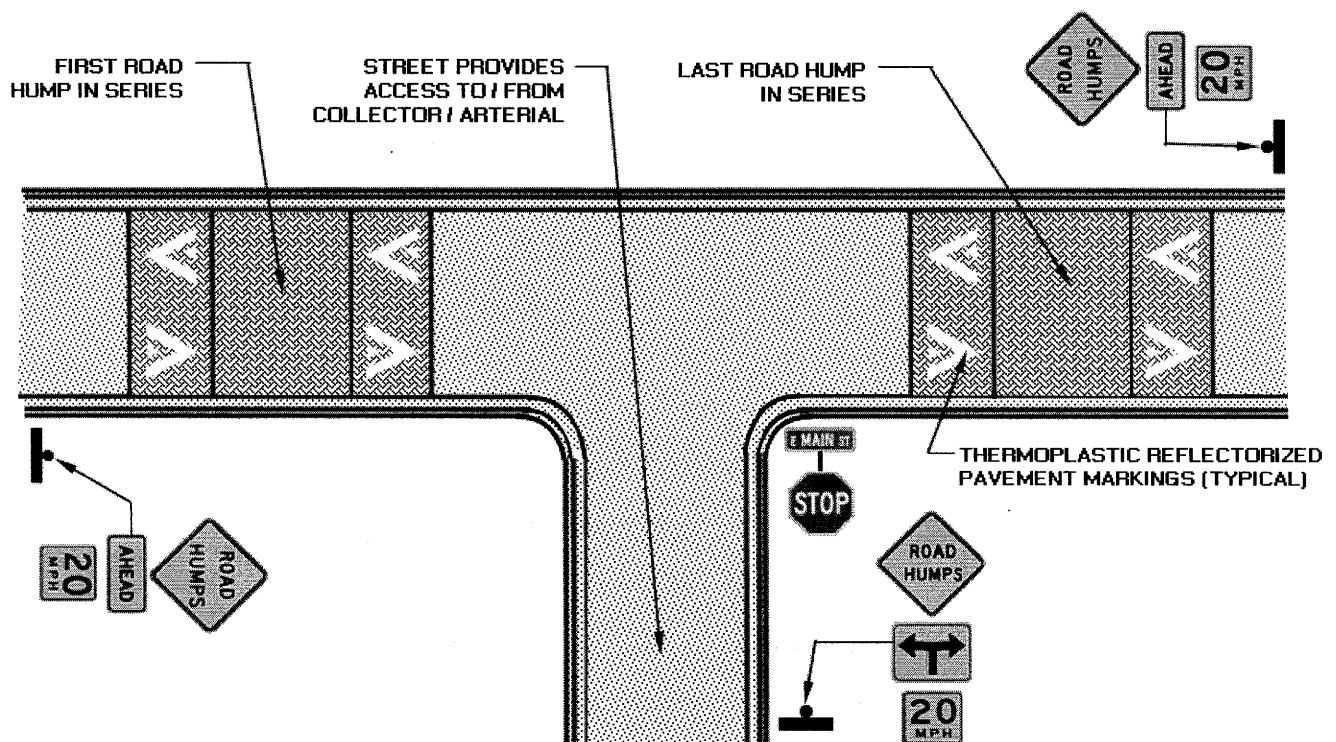
1.4 Legal Authority

Road humps shall be installed and may be removed only by the authority of the Columbia County, Georgia Board of Commissioners.

1.5 Standardization of Application

Columbia County follows the typical pavement markings and warning signs for road humps that are contained in the *Manual on Uniform Traffic Control Devices (MUTCD)* to indicate, in advance, the presence of road humps and to identify their location. A sample application of road hump traffic control devices is provided in **Figure 1.2** on this page.

FIGURE 1.2 - SAMPLE APPLICATION OF TRAFFIC CONTROL DEVICES



2.0 ROAD HUMP INSTALLATION PROGRAM

Before road humps may be scheduled for installation, several steps must be completed in sequence. A list of the sequential steps is provided in section **2.1 Road Hump Installation Steps** on this page. The section in the manual that provides more information regarding a particular step is indicated in parentheses and is italicized.

2.1 Road Hump Installation Steps

Before road humps may be installed, the following steps must be completed in sequence:

- 1 It is not readily apparent to staff that the requested street will not satisfy the initial screening criteria and the citizen is referred to the Columbia County Road Hump Program Policy Manual. After reading the manual, the citizen has decided to pursue the road hump program on behalf of the residents living in the area.
- 2 Columbia County performs an initial screening of the requested street and contacts the person to let them know whether or not the street is eligible to receive road humps. (*1.3 – Local Residential Street Initial Screening Criteria - page 3*)
- 3 If the street is eligible to receive road humps, a first petition form is provided to the person who is herein identified as the lead contact person. The first petition form is a one page form and includes a petition area for receiving the required ten signatures on one side of the page and a map of the petition boundary area and the requested street on the reverse side of the same page. The ten signatures will attest to the fact that there is community concern regarding subdivision speed and volume problems and will serve as a formal petition for collecting speed and volume data. (*2.2 – First Petition Process - page 6*)
- 4 After receiving the completed first petition form from the lead contact person, Columbia County will verify the signatures. (*2.2 – First Petition Process - page 6*)
- 5 If the first petition form is positively verified, Columbia County will notify the lead contact person that speed and volume data will be collected and will go over the data collection procedure. (*2.3 – Data Collection - page 9*)
- 6 After the data is collected, Columbia County will analyze the speed and volume data and notify the lead contact person of the data results. (*2.4 – Data Analysis - page 9*)
- 7 If the collected speed and volume data meets or exceeds the established minimum criteria for installing road humps, Columbia County will notify the lead contact person that they will receive multiple copies of the second petition form. The number of forms provided will depend on the number of lots in the petition boundary area. The second petition form includes a petition area for receiving signatures on one side of the page and the reverse side of the same page contains a map of the petition boundary area and the proposed road hump locations. The second petition form will indicate whether or not citizen participation in a cost-share arrangement is required and will provide a list of road hump advantages and disadvantages. The required number of signatures will attest to the fact that a majority of subdivision residents support the installation of road humps and will serve as a formal petition requesting their installation. (*2.5 – Second Petition Process - page 11*)
- 8 If the second petition forms are positively verified, Columbia County will notify the lead contact person that an agenda item recommending the installation of road humps will be prepared for committee review during the Planning and Engineering Services Committee (PESC) meeting. The PESC will recommend whether or not to place the item on the

agenda for the Columbia County Board of Commissioners meeting. If the agenda item is placed on the debate agenda, Columbia County will notify the lead contact person.

- 9 If the Columbia County Board of Commissioners approves the installation of road humps and citizen participation in the cost-share arrangement is not required, Columbia County will notify the lead contact person of an approximate road hump installation date. If citizen participation in a cost-share arrangement is required, Columbia County will notify the lead contact person of an approximate installation date as soon as all the monies are received and the necessary amount is authenticated.

The above steps represent the typical sequence of events that must transpire before an estimated installation date for road humps may be realized. The sections below describe in greater detail how these steps are accomplished.

2.2 First Petition Process

If a street is determined to be eligible for road humps based on an analysis of the initial screening criteria, a first petition form is created for the requested street and provided to the lead contact person. The first petition form contains an area for receiving ten signatures on the front side of the page and the back side of the same page contains a map of the petition boundary area for the requested street. Positive verification of the required ten signatures on the first petition form will serve as a formal petition for collecting speed and volume data.

A sample front side of the first petition form is provided in **Figure 2.1** on the following page and a sample back side of the same page is provided in **Figure 2.2** on page 8. However, the sample forms in **Figures 2.1 and 2.2** are not to be used for submitting signatures, since a first petition form for the requested street will be provided to the lead contact person.

Upon receipt of the completed first petition form, Columbia County will verify the signatures to determine whether or not both of the following are true:

- A portion of the residential lot property line does coincide with the right-of-way line for the street that is being requested to receive a speed and volume study (i.e., the residential lot directly abuts the street that is being requested to receive a speed and volume study).
- One legal property owner signature per residential lot contained in the petition boundary area has been provided and the signature appears to match available Columbia County records.

Signatures provided that meet both of the above two criteria will be considered positively verified and will count toward the ten signature requirement. Mr. and Mrs. signatures and/or renting tenant signatures are not acceptable.

The lead contact person will have between one and two years to acquire ten signatures. Signatures that may have been positively verified within the previous one to two years, but do not add up to the required ten signatures, will no longer count toward the ten signatures and an entirely new set of signatures will need to be submitted.

FIGURE 2.1 - SAMPLE FRONT SIDE OF FIRST PETITION FORM

FIRST PETITION FORM (Request for speed and volume data collection)

***** See reverse side for map of the petition boundary area and requested street *****

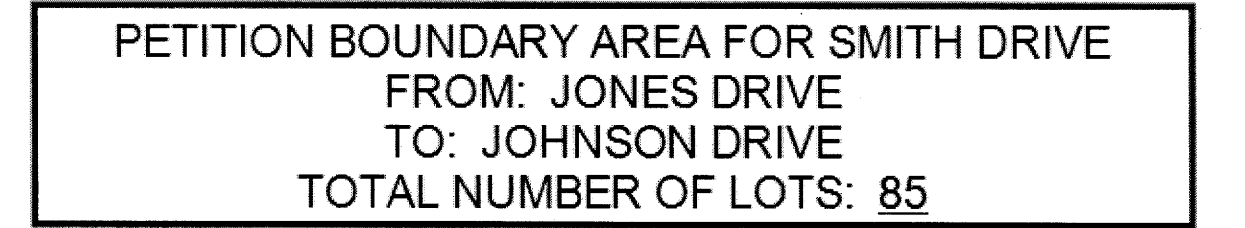
We, the undersigned, after reading the road hump advantages and disadvantages provided below, request the collection of speed and volume data for the requested street.

ROAD HUMP ADVANTAGES	
<ul style="list-style-type: none"> • Provide measurable speed reductions in cases where excessive speeding has been documented. 	<ul style="list-style-type: none"> • Traffic volumes may be reduced depending on the availability of alternative routes. • Effective 24 hours a day, 365 days a year.
ROAD HUMP DISADVANTAGES	
<ul style="list-style-type: none"> • All drivers must drive over them, including non-speeders. • Levels of traffic noise may increase. • Drivers may attempt to drive completely or partially around them. 	<ul style="list-style-type: none"> • Additional traffic control devices will be installed. • Possible jarring of emergency rescue vehicles. • One publication mentions delays between 3 and 5 seconds per hump for fire trucks and up to 10 seconds for an ambulance with a patient.
NEIGHBORHOOD	REQUESTED STREET NAME

Please provide a total of ten legal property owner's signatures (provide only one signature per residential lot contained in the petition boundary area).

NOTE: MR. & MRS. SIGNATURES AND/OR RENTING TENANT'S SIGNATURES WILL NOT BE ACCEPTED.

Printed Name	Signature	Street Address	Date
Printed Name	Signature	Street Address	Date
Printed Name	Signature	Street Address	Date
Printed Name	Signature	Street Address	Date
Printed Name	Signature	Street Address	Date
Printed Name	Signature	Street Address	Date
Printed Name	Signature	Street Address	Date
Printed Name	Signature	Street Address	Date
Printed Name	Signature	Street Address	Date
Printed Name	Signature	Street Address	Date



2.3 Data Collection

If the first petition form is positively verified, speed and volume data will be collected for the street. Data collection is accomplished through the use of a portable machine counter. A portable machine counter is an electronically operated counter that detects vehicles through the use of pneumatic road tubes that are stretched across the street. Speed and volume data is collected continuously for 24 hours. Data is usually collected during the non-summer months, since traffic during this time is generally considered to be more representative of prevailing traffic conditions.

The portable machine counter is placed at a location in the roadway that will best represent the speed and volume data for a majority of the street. The location selected is not intended to produce the highest speeds and/or volumes, nor is the location intended to produce the lowest speeds and/or volumes.

Traffic counters are routinely checked for accuracy and include test runs to compare the machine counter speed display with the vehicle speedometer readout. Due to the inconspicuous nature of the portable machine counter, as well as staff adhering to industry standards regarding set-up and operation, it is felt that the resulting data offers a very good representative sample of prevailing speed and volume conditions.

2.4 Data Analysis

Upon completion of the data collection, the information is downloaded from the counter into a personal computer and verified for accuracy. If the data appears to be accurate, the 85th percentile speed in miles per hour (mph) and the 24 hour volume in vehicles per day (vpd) are compared to a set of established speed and volume criteria. Another way of looking at the 85th percentile speed is that only 15 percent of the driving population is driving above this value, while a majority of the driving population is traveling at or below this value.

Figure 2.3 on the following page provides speed and volume criteria and identifies their association with varying levels of speed and volume problem severity. Severity is divided into four levels and corresponds to the amount of citizen participation that will be required in a cost-share arrangement. The four levels of problem severity from lowest to highest and the corresponding percentage of the total estimated road hump installation costs that must be paid for by that portion of the subdivision in the petition boundary area are as follows:

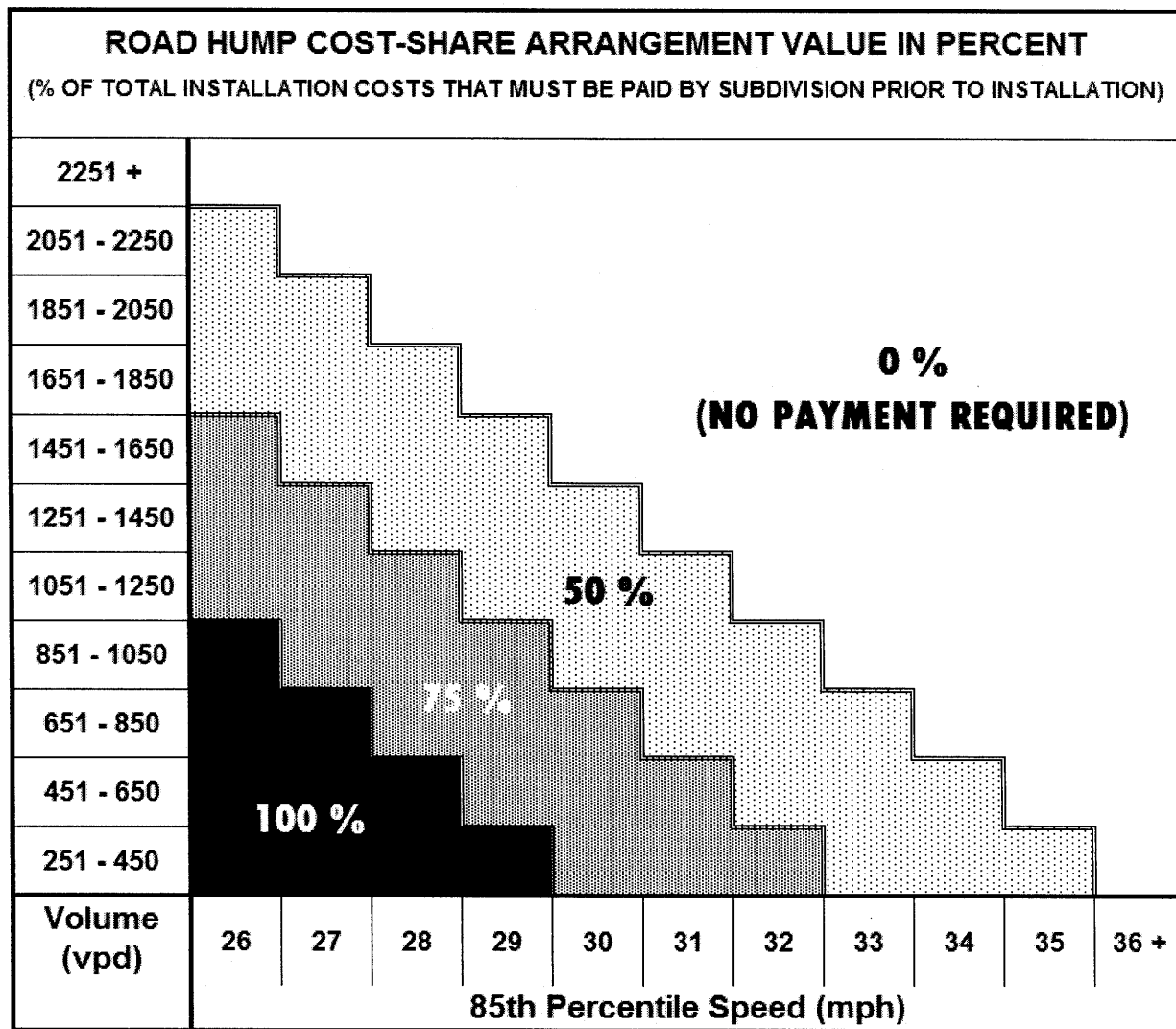
- Very Low.....100 % of road hump installation costs to be paid by the subdivision.
- Low.....75 % of road hump installation costs to be paid by the subdivision.
- Medium.....50 % of road hump installation costs to be paid by the subdivision.
- High.....0 % of road hump installation costs to be paid by the subdivision.

It is important to note that the above cost-share percentages are for the entire road hump installation costs only and all monies must be received prior to installing road humps. Road hump maintenance and repair costs will be paid for by the county. Regarding the 100 percent cost-share arrangement, it is important to note that many road hump programs do not consider

road humps for streets with an 85th percentile value that is less than five mph above the speed limit. The Columbia County Road Hump Program does allow streets with an 85th percentile value that is less than five mph above the speed limit to remain eligible for road humps as long as the volume is 251 vpd or greater and the 85th percentile speed is 26 mph or higher. A street that contains either an 85th percentile speed that is less than 26 mph or a volume that is less than 251 vpd will no longer be considered for road humps.

The dividing lines between Very Low (100%), Low (75%), Medium (50%), and High (0% - no payment) levels of severity were based on varying cut-off points that were established for other road hump programs using cost-share arrangements. In addition, the dividing lines were based on varying cut-off points that were used by other road hump programs for determining road hump eligibility, regardless of a cost-share arrangement.

FIGURE 2.3 – SPEED AND VOLUME CRITERIA



2.5 Second Petition Process

If the resulting speed and volume data indicate that the street remains eligible for receiving road humps, several second petition forms are created for the requested street and provided to the lead contact person. The number of second petition forms provided will depend on the number of lots in the petition boundary area. Each second petition form contains an area for receiving signatures on the front side of the page and the back side of the same page contains a map of the petition boundary area and the proposed road hump locations for the requested street.

The second petition form will indicate whether or not citizen participation in a cost-share arrangement is required and will provide a list of road hump advantages and disadvantages. Positive verification of the required number of signatures on the second petition forms will serve as a formal petition for installing road humps.

A sample front side of the second petition form is provided in **Figure 2.4** on the following page and a sample back side of the same page is provided in **Figure 2.5** on page 13. However, the sample forms are not to be used for submitting signatures, since a second petition form for the requested street will be provided to the lead contact person. The number of signatures that are required to be positively verified will be based on the total number of residential lots contained in the petition boundary area and will be designated on the second petition form.

Upon receipt of the completed second petition forms, Columbia County will verify the signatures to determine whether or not both of the following are true:

- A portion of the residential lot property line does coincide with the right-of-way line for the street that is being requested to receive road humps (i.e., the residential lot must directly abut the street that is being requested to receive road humps).
- One legal property owner signature per residential lot contained in the petition boundary area has been provided and the signature appears to match available Columbia County records.

Signatures provided that meet both of the above two criteria will be considered positively verified and will count toward the second petition form signature requirement. Mr. and Mrs. signatures and/or renting tenant signatures are not acceptable. The required number of signatures will be based on the following percentages:

- Ninety percent or more of the total number of residential lots contained in the petition boundary area must have each provided one legal property owner signature on the second petition form and this same signature must be accompanied by a YES vote or a NO vote in support of or against the installation of road humps.
- Seventy percent or more of the total number of residential lots contained in the petition boundary area must have each provided one legal property owner signature on the second petition form and this same signature must be accompanied by a YES vote in support of the installation of road humps.

The lead contact person will have between one and two years to acquire the required number of signatures. Signatures that may have been positively verified within the previous one to two years, but do not add up to the required number of signatures, will no longer count toward the signature requirement and an entirely new set of signatures will need to be submitted.

FIGURE 2.4 – SAMPLE FRONT SIDE OF SECOND PETITION FORM**SECOND PETITION FORM (Request for the installation of road humps)**

See reverse side for map of the petition boundary area and proposed road hump locations

We, the undersigned, after reading the road hump advantages and disadvantages provided below, request the installation of road humps on the requested street.

ROAD HUMP ADVANTAGES

- Provide measurable speed reductions in cases where excessive speeding has been documented.
- Traffic volumes may be reduced depending on the availability of alternative routes.
- Effective 24 hours a day, 365 days a year.

ROAD HUMP DISADVANTAGES

- All drivers must drive over them, including non-speeders.
- Additional traffic control devices will be installed.
- Levels of traffic noise may increase.
- Possible jarring of emergency rescue vehicles.
- Drivers may attempt to drive completely or partially around them.
- One publication mentions delays between 3 and 5 seconds per hump for fire trucks and up to 10 seconds for an ambulance with a patient.

NEIGHBORHOOD	REQUESTED STREET NAME

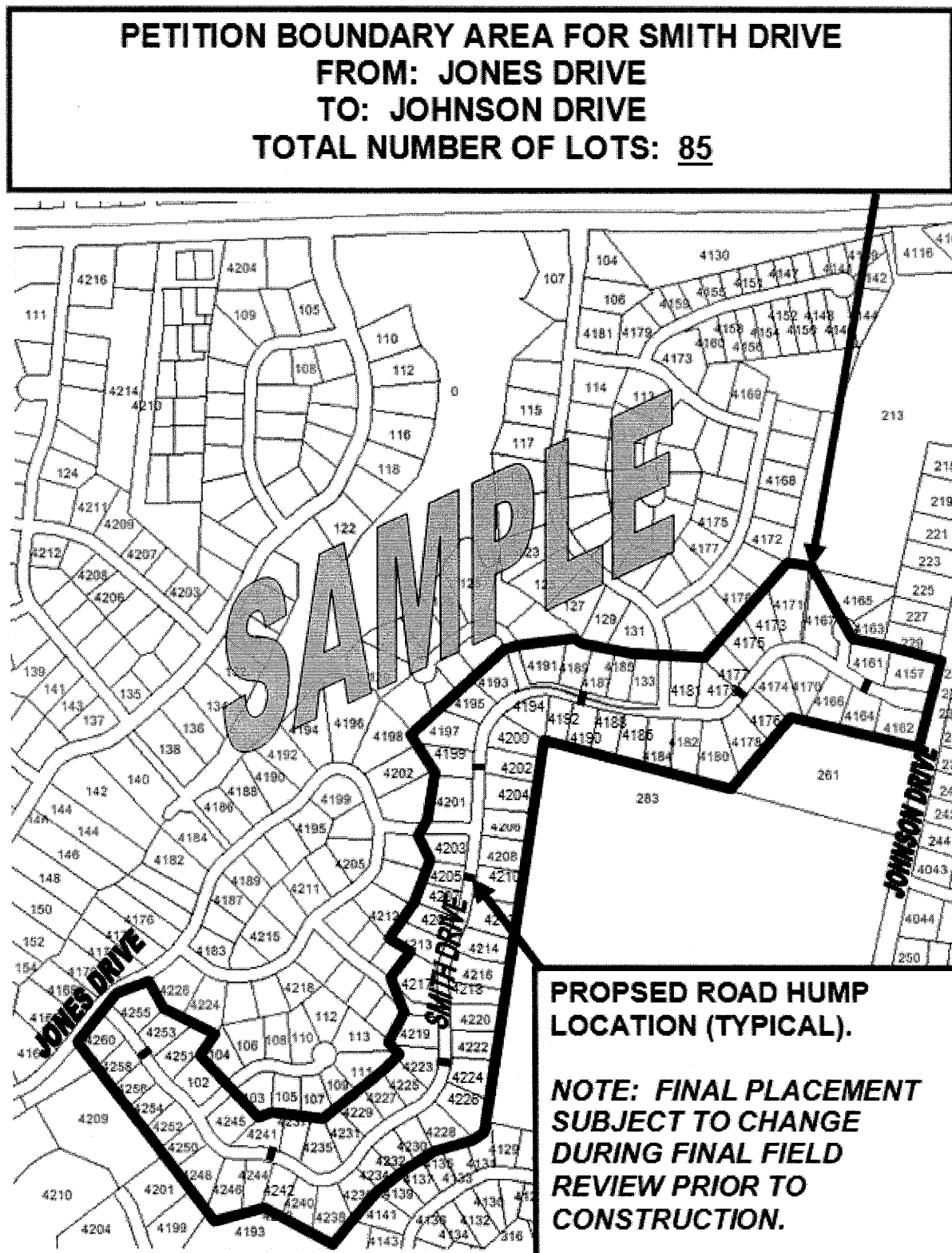
LEVEL OF CITIZEN PARTICIPATION IN COST - SHARE ARRANGEMENT:

(% of total installation costs to be paid by that portion of the subdivision contained in the petition boundary area prior to installing road humps)

NOTE: ONLY ONE LEGAL PROPERTY OWNER SIGNATURE PER RESIDENTIAL LOT CONTAINED IN THE PETITION BOUNDARY AREA WILL BE ACCEPTED. MR. & MRS. SIGNATURES AND/OR RENTING TENANT'S SIGNATURES WILL NOT BE ACCEPTED.

Printed Name:	Signature:	Date:	Witness Name (Print):
Address:		Support: YES <input type="checkbox"/> NO <input type="checkbox"/>	
Printed Name:	Signature:	Date:	Witness Name (Print):
Address:		Support: YES <input type="checkbox"/> NO <input type="checkbox"/>	
Printed Name:	Signature:	Date:	Witness Name (Print):
Address:		Support: YES <input type="checkbox"/> NO <input type="checkbox"/>	
Printed Name:	Signature:	Date:	Witness Name (Print):
Address:		Support: YES <input type="checkbox"/> NO <input type="checkbox"/>	
Printed Name:	Signature:	Date:	Witness Name (Print):
Address:		Support: YES <input type="checkbox"/> NO <input type="checkbox"/>	
Printed Name:	Signature:	Date:	Witness Name (Print):
Address:		Support: YES <input type="checkbox"/> NO <input type="checkbox"/>	

FIGURE 2.5 - SAMPLE BACK SIDE OF SECOND PETITION FORM



3.0 ROAD HUMPS REMOVAL PROGRAM

Road humps may only be considered for removal after they have been in place for at least three years after the installation date. The removal process is patterned after the installation process and will involve positive verification of road hump removal petition forms. Positive verification of the required number of signatures on the road hump removal petition forms will serve as a formal petition for removing road humps.

Upon receipt of the completed road hump removal petition forms, Columbia County will verify the signatures to determine whether or not both of the following are true:

- A portion of the residential lot property line does coincide with the right-of-way line for the street that is being requested to remove road humps (i.e., the residential lot must directly abut the street that is being requested to remove road humps).
- One legal property owner signature per residential lot contained in the petition boundary area has been provided and the signature appears to match available Columbia County records.

Signatures provided that meet both of the above two criteria will be considered positively verified and will count toward the road hump removal petition form signature requirement. Mr. and Mrs. signatures and/or renting tenant signatures are not acceptable. The required number of signatures will be based on the following percentages:

- Ninety percent or more of the total number of residential lots contained in the petition boundary area must have each provided one legal property owner signature on the road hump removal petition form and this same signature must be accompanied by a YES vote or a NO vote in support of or against the removal of road humps.
- Seventy percent or more of the total number of residential lots contained in the petition boundary area must have each provided one legal property owner signature on the road hump removal petition form and this same signature must be accompanied by a YES vote in support of the removal of road humps.

The lead contact person will have between one and two years to acquire the required number of signatures. Signatures that may have been positively verified within the previous one to two years, but do not add up to the required number of signatures, will no longer count toward the signature requirement and an entirely new set of signatures will need to be submitted.